What is Claimed is:

1. A method of making a cell culture environment, said method comprising:

   a) crosslinking a polymer to form a hydrogel;

   b) forming pores within said hydrogel; and

   c) non-covalently incorporating at least one biologically active molecule into said porous hydrogel.

2. The method of claim 1, wherein said polymer is selected from the group consisting of alginate, modified alginates, hyaluronic acid, modified hyaluronic acid, agarose, collagen, chitosan, chitin, poly vinyl alcohol, polytrimethylene carbonate, poly hydroxybutyrate, amino acid-based polycarbonates, poly vinylchloride, polyHEMA, PTFE, poly ethylene glycol, poly methylmethacrylate, poly fumarate, polypropylene glycol-based polymers, and derivatives thereof.

3. The method of claim 1, wherein said forming pores comprises freezing and lyophilizing said hydrogel.

4. The method of claim 3, wherein said non-covalently incorporating said at least one biologically active molecule comprises hydrating said lyophilized hydrogel with a solution comprising said at least one biologically active molecule, and drying or lyophilizing said hydrated porous hydrogel.

5. The method of claim 1, wherein said at least one biologically active molecule is selected from the group consisting of extracellular matrix molecules (ECM), growth factors, cell-signaling molecules and derivatives thereof.

6. The method of claim 5, wherein said at least one biologically active molecule comprises at least one extracellular matrix molecule (ECM) and at least one cell signaling molecule.

7. The method of claim 6, wherein said ECM is selected from the group consisting of fibronectin, laminins, collagens, thrombospondin 1, vitronectin, elastin, tenascin, aggrecan, agrin, bone sialoprotein, cartilage matrix protein, fibronogen, fibrin, fibulin, mucins, entactin, osteopontin, plasminogen, restrictin, serglycin, SPARC/osteonectin, versican, von Willebrand Factor, heparin sulfate proteoglycan, hyaluronan, merosin, osteopontin, osteonectin, cell adhesion molecules, cadherins, connexins and selectins.

8. The method of claim 5, wherein said growth factor is selected from the group consisting of acidic fibroblast growth factor, basic fibroblast growth factor platelet-derived growth factor, nerve growth factor, transforming growth factor-β, hematopoietic growth factors and interleukins.

9. A cell culture environment, comprising a porous hydrogel scaffold and at least one biologically active molecule, wherein said at least one biologically active molecule is non-covalently attached to said porous hydrogel scaffold.

10. The cell culture environment of claim 9, wherein said hydrogel comprises a polymer selected from the group consisting of alginate, modified alginate, hyaluronic acid, modified hyaluronic acid, agarose, collagen, chitosan, chitin, poly vinyl alcohol, polytrimethylene carbonate, poly hydroxybutyrate, amino acid-based polycarbonates, poly vinylchloride, polyHEMA, PTFE, poly ethylene glycol, poly methylmethacrylate, poly fumarate, polypropylene glycol-based polymers, and derivatives thereof.

11. The cell culture environment of claim 9, wherein said hydrogel is covalently crosslinked.

12. The cell culture environment of claim 9, wherein said at least one biologically active molecule is selected from the group consisting of extracellular matrix molecules (ECM), growth factors, cell-signaling molecules, and derivatives thereof.

13. The cell culture environment of claim 12, wherein said at least one biologically active molecule comprises at least one extracellular matrix (ECM) molecule and at least one growth factor.

14. The cell culture environment of claim 13, wherein said ECM is selected from the group consisting of fibronectin, laminins, collagens, thrombospondin 1, vitronectin, elastin, tenascin, aggrecan, agrin, bone sialoprotein, cartilage matrix protein, fibronogen, fibrin, fibulin, mucins, entactin, osteopontin, plasminogen, restrictin, serglycin, SPARC/osteonectin, versican, von Willebrand Factor, heparin sulfate proteoglycan, hyaluronan, merosin, osteopontin, osteonectin, cell adhesion molecules, cadherins, connexins and selectins.

15. The cell culture environment of claim 13, wherein said growth factor is selected from the group consisting of acidic fibroblast growth factor, basic fibroblast growth factor platelet-derived growth factor, nerve growth factor, transforming growth factor-β, hematopoietic growth factors and interleukins.

16. An array, comprising the cell culture environment of claim 9.

17. The array of claim 16, wherein said array comprises more than one said cell culture environment, each of said more than one cell culture environments being composed of identical constituents.

18. The array of claim 16, wherein said array comprises more than one said cell culture environment, each of said more than one cell culture environments being composed of different constituents.

19. A method of culturing cells, comprising:

a) seeding cells on the cell culture environment of claim 9; and

b) maintaining said cells within said environment under appropriate cell culture conditions.

20. A method for assaying cellular function in response to at least one test molecule, said method comprising:

a) seeding cells onto the cell culture environment of claim 9, wherein said at least one non-covalently attached biologically active molecule is said test molecule;

b) maintaining said cells on said cell culture environment under appropriate conditions; and

c) determining said cultured cells' response to said maintenance on said cell culture environment.

21. The method of claim 20, wherein said cells are seeded in an *in vitro* setting.

22. The method of claim 21, wherein said appropriate conditions comprise cell culture conditions.

23. The method of claim 20, wherein said cells are seeded in an *in vivo* setting.

24. The method of claim 23, wherein said maintaining said cells under appropriate conditions comprises maintaining said cell culture environment in a subject.

25. A method of producing a cell-based *in vivo* transplant, said method comprising:

a) in an *in vitro* setting, seeding cells on the cell culture environment of claim 9; and

b) maintaining said cells on said cell culture environment under appropriate cell culture conditions.

26. A kit, comprising:

a) a polymer, said polymer having the ability to form a porous hydrogel; and

b) at least one biologically active molecule,

said kit being used to create a cell culture environment.

27. The kit of claim 26, wherein said polymer exists as a porous hydrogel.